SUDAKOV, S.G.; ALEKSANDROV, T.F.; BAGROV, M.A.; BULANOV, A.I.; KAMENSKAYA, M.V.; KUZ'MIN, B.S.; LITVINOV, B.A.; SINYAGINA, M.I.; TIMOFEYEV, A.A.; EITIN, I.I.; pri uchastii Sinyaginoy, V.I.; BULANOV, A.I., red.; ROMANOVA, V.V., tekhn.red.

[Instructions for first, second, third and fourth class leveling] Instruktsiia po nivelirovaniiu I, II, III i IV klassov. Izd. 2-oe, ispr. i dop. Moskva, Izd-vo geodez. lit-ry, 1957. 106 p. (MIRA 11:4)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i kartografii.
(Leveling)

GAUSS, K.F. [Gauss, Karl Friedrich]; SUDAKOV, S.G., red.; BAGRATUNI, G.V., red.; BOLAYEVSKIY, N.F. [translator]; KHROMCHENKO, F.I., red. izdatel'stva; ROMANOVA, V.V., tekhn.red.

[Selected geodetic works] Izbrannye geodezicheskie sochineniia. Pod obshchei red. S.G.Sudakova. Moskva, Izd-vo geodez.lit-ry. Vol.1. [The method of least squares. Translated from the Latin] Sposob naimen'shikh kvadratov. Pod red., s vvedeniem G.V.Bagratuni. Perevod s latinskogo N.F.Bulaevskogo. 1957. 150 p. (MIRA 10:12)
(Least squares)

STRUVE, V.Ya.; SUDAKOV, S.G., red.; VASIL'YEVA, V.I., red.izd-va; ROMANOVA, V.V., tekhn.red.

[A meridional arc; selected chapters] Duga meridiana; izbrannye glavy. Pod obshchei red. S.G.Sudakova. Moskva, Izd-vo geodez.lit-ry, 1957. 255 p. (MIRA 10:12)

(Arc measures)

SUDAKOV S. G.

AUTHOR: Sukhov, A. I., Docent

SOV/154-58-2-15/22

TITLE: Chronicle (Khronika) III

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1958, Nr 2, pp 110-111 (USSR)

ABSTRACT: This is a report on the deliberations held from April 23 to 28 by the engineers and department heads of the technical supervision of geodetical activities of the Central Administration of Geodesy and Cartography of the MVD SSSR (Department of the Interior of the USSR). Opening speech and report by the Head of GUGK (State Administration of Geodesy and Cartography), S. G. Sudakov: "On the New Tasks of the GUGK With Respect to the Perfecting of Topographical and Geodetic Work of Importance to the National Economy, Such as the Analysis of the Accuracy of Measurements in Triangulations of the 2nd and 3rd Classes, and the Application of Optical Range Finders in Geodetic Work." U. S. Uspenskiy, Candidate of Technical Sciences, reported on: "Some Results of the Study of Centers and Bearing Points Within the Territory of the USSR." Engineer P. I. Durnev: "New Geodetical Instruments for Topographical Photographs." Engineer S. G. Gavrilov: "The Technical Planning of New Geodetical and

Card 1/3

Topographic Surveys." Engineer B. V. Troitskiy: "Marking Points for the Preparation of Surveys." Engineer I. V. Krylov: "Analytical Methods for the Determination of Bench and Height Markers." Engineer S. I. Yurov: "On the Overall Preparations for Aerial Photographs." B. D. Zaprudov: "The Checking of Stereotopographical Surveys in the AGP-Moscow." M. D. Konshin, Professor, Doctor of Technical Sciences: "The Use of Elements of Outer Orientation in the Photometrical Preparation of Aerial Photographs and Improvements in the Accuracy of Stereoscopic Measurements." G. A. Krashennikov, Candidate of Technical Sciences: "Some Remarks on the Drobyshev-Stereograph." V. Ya. Mikhay, Candidate of Technical Sciences: "On Improving the Photographic Quality of Aerial Photos." Engineer Kashin: "Camera Work in Field-Partitioning in the Severo-kavkaz-AGP." G. S. Dyakov: "On the Present State of Technical Instruction for Geodetic Work." Furthermore the meeting dealt with the envisaged rationalization of the new geographic-geodetic technique (GUGK 1957). Lively discussions followed the lectures. On April 28 the head engineers of the AGP and the collaborators of the MIIGA i K (Moscow Engineering Institute of Geodesy, Aerophotography, and Cartography) discussed some questions relating

SOV/6-58-9-1/26

AUTHOR: Sudakov, S. G.

TITLE: General Principles in the Establishment of State Surveying Systems (Obshchiye printsipy postroyeniya gosudarstvennykh geodezicheskikh setey)

PERIODICAL: Geodeziya i kartografiya, 1958, Nr 9, pp 3 - 12 (USSR)

ABSTRACT: In this paper the general principles of the establishment of State Surveying Systems are outlined and presented for discussion to the wide circle of scientists and engineers engaged in surveying work. If topographical surveying at a scale not less than 1:25 000 is considered to be the objective of surveying work it appears that in general only 10% of the required surveying systems are available in all countries of the world. The accuracy desired in surveying systems is very high and in establishing such systems there will be need to take into account not only present requirements but also that of the near and the far future. The supplementary sub-grade systems also must exhibit a high accuracy. Moreover the necessity arises of establishing a uniform coordinate system for locating the points of the surveying system

Card 1/2

in all parts of the country. A uniform coordinate system can only be introduced after the first order system has been completed and after a reference ellipsoid having reliable dimensions has been chosen. This reference ellipsoid must be accordingly oriented and a procedure must be adopted for referencing the measured data to the chosen datum surface. The Soviet system dating from 1942, using the Krasovskiy reference ellipsoid with a Pulkovo orientation is considered to be the best scientifically founded system of geodetic coordinates. One of the most important problems arising in practical work is that of the necessary and sufficient density of the surveying system. The density should not be increased but it should be reduced to a tolerable level without impairing the accuracy of topographical surveying.

3(4)
AUTHOR: Sudakov, S. G. SOV/6-58-11-1/15

TITLE: Principal Tasks in the Further Development and Improvement of Topographic-Geodetic Work of National Importance (Osnovnyye zadachi dal'neyshego razvitiya i uluchsheniya topografo-geodezicheskikh rabot gosudarstvennogo znacheniya)

PERIODICAL: Geodeziya i kartografiya, 1958, Nr 11, pp 3-11 (USSR)

ABSTRACT: At first a short survey is given on the development of topographic-geodetic work after the second World War. In spite of considerable progress in this field it was not possible to satisfy all demands. Based upon the control figures for 1959--1965 new preliminary targets were worked out for the new seven-year plan in the Glavnoye upravleniye geodezii i kartografii MVD SSSR (Main Administration of Geodesy and Cartography at the Ministry of the Interior of the USSR). Apart from the compilation of new maps a revision of the maps produced during the last two decades will be necessary. In the coming 7 years special preference is to be given to the development of topographical work in the eastern regions of the Union. The series production of optical range meters will be the next and most important task for the Gosudarstvennaya

Card 1/2

geodezicheskaya sluzhba (State Geodetic Service). The design of stations must be altered, a re-design is no longer postponable. It is a very difficult and thankless task to run IV grade leveling circuits in the taiga, in mountain and swamp areas. In these regions IV grade leveling is to be replaced by trigonometric leveling from points of the state surveying net. An adequate organization of surveying work must be worked out for the compilation of the National Topographical Map. The measures to be taken in this direction are described. In this connection errors encountered in existing topographical maps are mentioned. A comprehensive organization of work in Eastern Siberia, in the Far East and in difficultly accessible areas is of special importance. The stereoprojector of D.T. Bonnarrotsky and the stereograph of Professor F.V. Drobyshev are mentioned.

EULER, LEONHARD [1707-1783]; BULAYEVSKIY, N.F. [translator]; BAGRATUNI, G.V., red.; SUDAKOV, S.G., red.

[Three articles on mathematical cartography] Tri stat'i po matematicheskoi kartografii. Moskva, Izd-vo geodez.lit-ry, 1959. 78 p. (His: Izbrannye kartograficheskie stat'i. Pod obshchei red. S.G.Sudakova). (MIRA 14:4)

(Map projection)

SUDAKOV, S.G.; ALEKSANDROV, T.F.; BAGROV, M.A.; BULANOV, A.I.; KAMENSKAYA, M.V.; KUZ'MIN, B.S.; LITVINOV, B.A.; SINYAGINA, M.I.; TIMOFEYEV, A.A.; ENTIN, I.I.. Prinimala uchastiye SINYAGINA, V.I.. ROMANOVA, V.V., tekhn.red.

[Instructions for first-, second-, third-, and fourth-order leveling] Instruktsiia po nivelirovaniiu I, II, III i IV klassov. Izd.3, ispr. i dop. Moskva, Izd-vo geod.lit-ry, 1959. 111 p. (MIRA 13:3)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i kartografii.
(Leveling--Handbooks, manuals, etc.)

BAGRATUNI, Gegam Vagramovich; SUDAKOV, S.G., red.; KOMAR'KOVA, L.M., red.izd-va; BOTVINKO, M.V., tekhn.red.

[Feodosii Nikolaevich Krasovskii; an outline of his life and scientific and practical activities] Feodosii Nikolaevich Krasovskii; ocherk zhizni i nauchno-proizvodstvennoi deiatel'nosti. Pod red. S.G.Sudakova. Moskva, Izd-vo geod.lit-ry, 1959. 121 p. (MIRA 13:8)
(Krasovskii, Feodosii Nikolaevich, 1878-1948)

SUDAKOV, S G

3 (2), 3 (4)

SOV/6-59-5-23/26

AUTHOR: None Given

TITLE: Chronicle (Khronika)

PERIODICAL: Geodeziya i kartografiya, 1959, Nr 5, pp 75-76 (USSR)

ABSTRACT: From March 30 to April 2, 1959, a conference of the directors of the aerogeodetic enterprises and teams, of the managers of the cartographical establishments and of the NRKCh, as well as of the heads of the departments of the State Geodetic Supervising Authority of the MVD of the republics, of the UVD of the kray and oblast' was held in Moscow in the Glavnoye upravleniye geodezii i kartografii MVD SSSR (Main Administration of Geodesy and Cartography of the Ministry of the Interior of the USSR). In the plenary meeting, Comrade A. N. Baranov, Manager of the GUGK, spoke on "Plan of the Topographic-geodetic and Cartographic Studies for 1959-1965." In the Geodetic Section, Comrade S. G. Sudakov, Deputy Manager of the GUGK, spoke on "On the Plan of the Topographic-geodetic Studies for 1959." In the Cartographic Section, A. N. Baranov, Manager of the GUGK, spoke on "Plan of the Cartographic Industry for 1959." In the section of the State Geodetic Supervising Authority of the MVD of the Republics,

Card 1/2

the UVD of the kray and oblast', G. K. Zubakov, Deputy Manager of the GUGK MVD SSSR, spoke on "The Results of the Activities of the Departments of the State Geodetic Supervising Authority in 1958, and the Tasks in Future Work." The Conference approved the plan for the promotion of topographic-geodetic and cartographic studies in the years 1959-1965. The appearance of the following new cartographic publications is envisaged: physico-geographical world atlas, comprehensive atlas of the USSR, agricultural atlas of the USSR, comprehensive China atlas, school atlasses, comprehensive atlasses of the Union Republics and of individual oblast'. The Conference took decisions concerning measures for the improvement of the quality of topographic-geodetic studies.

.3(4)

AUTHOR: Sudakov, S. G. SOV/6-59-8-1/27

TITLE: Questions Concerning the Structure of the Astrogeodetic Net of the USSR(Voprosy postroyeniya astronomo-geodezicheskoy seti SSSR)

PERIODICAL: Geodeziya i kartografiya, 1959, Nr 8, pp 3-10 (USSR)

ABSTRACT: The completion of the establishment of the astrogeodetic net of the USSR is among the foremost tasks to be coped with in the coming seven years. Its pattern and structural program was developed about 30 years ago by F. N. Krasovskiy on the basis of the triangulation series of the first order. So far, no important changes have been made. Yet, the dimensions of normal polygons were reduced, the number of bases was increased, the accuracy of angle measurements improved. The invention of optical precision range-finders operating over distances of 20-25 km, as well as the work in hardly accessible parts of the country make it necessary to look for additional possibilities to improve this net and to reduce labor and cost involved. In this connection it would also be necessary to find ways to replace the elements of the primary triangulation by polygonal traverses in the tundra region, in the flat and mountainous parts of the taiga, and in some other regions, and to establish an

Card 1/3

astrogeodetic net in hardly accessible high-mountain regions and in open mountains of medium altitude. The astrogeodetic net would have to retain its importance for the solution of scientific tasks in the field of higher geodesy. The expansion of the standard system of coordinates over the entire territory of the USSR would also have to be guaranteed. These questions, are now discussed in the present paper. It is shown that an element of a polygonal traverse at the ends of which the angle of direction (Laplace azimuth) is determined and whose sides with a length of 20 km are measured by means of an optical range finder can replace an element of a primary triangulation on condition that errors inherent in the linear and angle measurements do not exceed those assumed here. Investigations proved that the measurements of the sides of a polygonal traverse member exhibit a maximum error of 1 : 300,000. Since, however, no reliable systematical checks are possible in these measurements as they are in the case of primary triangulations, at each point two angles - the main angle and the complementary angle to 360° - have to be measured independently of one another. Furthermore measurements at one point have to be made

successively with a 6-10 hour intermission.- In the establishment of the astrogeodetic net it is necessary to take measures to improve the junction points of polygonal traverse elements or elements of the primary triangulation. Figures 3 and 4, respectively, show how the disadvantage arising from the fact that points A and B, C and D, E and F, or K and M - belonging to different constructions and not connected amongst each other by direct measurements - have of necessity to undergo major corrections can be eliminated.- It is shown that the establishment of the astrogeodetic net in open mountain regions, except for high mountains, ought to be carried out in the form of a continuous trigonometric net. This has been examined sufficiently and also tested by practical experience. On the basis of the data obtained it is shown that the accuracy of a continuous net is fully guaranteed even though it consists of triangles which differ widely from equilaterals. The substitution of a continuous for a polygonal net is advantageous and justified in particular if the sides of the triangles are, on average, 50-60 km in length. There are 4 figures.

S/035/61/000/006/031/044
A001/A101

AUTHOR: Sudakov, S.G.

TITLE: Achievements and tasks of topographic and geodetic practice

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 6, 1961, 1, abstract 6G1 ("Tr. 2-go s"yezda Vses. astron.-geod. o-va, 1955", Moscow, AN SSSR, 1960, 101 - 107)

TEXT: The tasks of topographic and geodetic practice in the USSR, formulated in the Lenin decree of 1919 "On establishment of the Supreme Geodetic Administration", are actual for the present time and will preserve their significance for a long time to come. Successes achieved in development of topographic-geodetic and cartographic practice in the USSR after 1935 are noted. They include first of all the compilation of the state topographic map, scale 1:100,000; furnishing the Soviet Army with high-quality maps of various scales during the Great Patriotic War 1941-1945; successful development of works on cartography of the country on scales 1:25,000 and 1:10,000; improvement of surveying methods; erection of reference geodetic network over vast territories; completion of adjustment of the astronomical-geodetic network and first- and second-order levelling

Card 1/ 2

S/035/61/000/006/031/044
A001/A101

Achievements ....

networks, which made it possible to introduce for the whole country a unified system of coordinates and altitudes; compilation and publishing of maps on scales 1:200,000, 1:300,000, 1:500,000, 1:1,000,000 and a hypsometric map of the USSR on scale 1:2,500,000 which have the wide-spread application in the national economy; publishing of a great number of various cartographic products including "the Great Soviet World Atlas". Considerable successes were achieved in gravimetry; much work was carried out in determining first-order gravimetric points, the general gravimetric survey is successfully developing, works on astronomical-gravimetric levelling are carried out. Geodetic instrument construction is developing. The optical-mechanical industry of the USSR manufactures at present all types of devices and instruments which are needed for topographic-geodetic works. To develop further geodetic and cartographic works in the USSR, it is necessary to improve by all means surveying methods and reduce their costs, to develop the cartography of the country on scale 1:10,000, to renew systematically the existing topographic maps, to develop at accelerated rates networks of triangulation and levelling, and to increase their precision, to introduce widely new techniques of measurements into practice of geodetic works.

N. Bruyevich

[Abstracter's note: Complete translation]

Card 2/2

AUTHOR: Sudakov, S. G., Deputy Chairman of the Glavnoye upravleniye geodezii i kartografii MVD SSSR (Main Administration of Geodesy and Cartography of the Ministry of Internal Affairs of the USSR)

S/154/60/000/01/004/017
B007/B123

TITLE: Further Development of the Scheme and Program for Building up the State Geodetic Framework of the USSR

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1960, Nr 1, pp 17-38 (USSR)

TEXT: First, a short survey of the present stage of the State geodetic net is given. A historical survey of the development of the astronomical-geodetic net of the USSR since 1910 is given. V. V. Vitkovskiy, N. Ya. Tsinger, I. I. Pomerantsev, N. O. Shchetkin, K. V. Sharngorst, N. D. Artamonov, F. F. Vitram, and F. N. Krasovskiy are mentioned. The new scheme worked out by F. N. Krasovskiy has hardly been changed since 30 years. The astronomical-geodetic net of the USSR will not be completed for a long time. In the north and east this net shows still far-extended lines or very large polygons. From 1958 onward everything will be done in order to finish the building up of this net all over the USSR within the next seven years. Although this net has been built up during some decades, it shows a uniform structure of high value with few exceptions.

Card 1/4

Further Development of the Scheme and Program for Building up the State Geodetic Framework of the USSR

S/154/60/000/01/004/017
B007/B123

Although it has not yet been completed it has already been possible to determine the measurements of the reference ellipsoid (by F. N. Krasovskiy) by means of this net, and to introduce a standard system of geodetic coordinates in many areas of the USSR. The paper by A. M. Starostin (Ref, footnote on p 19) is mentioned. A survey of the development of triangulation of the second, third and fourth order is given. From 1948 onward the geodetic nets of the second and third order have been built up on scales of 1 : 25000 and 1 : 10000 for topographic surveying. Since 1958 also large-scale surveys have been carried out, and nets of the fourth order have been built up. The purpose of the astronomical-geodetic net is briefly discussed. The accuracy of triangulation of all orders is presently so high that the astronomical-geodetic net cannot be considered a basis for the successive geodetic constructions. The astronomical-geodetic net is necessary only in order to insure the unity of the coordinate system of second-order triangulation . In 1957 it was decided that it is not advisable to alter the basic structure of the astronomical-geodetic net. The measures to be taken for building up a state geodetic net of the second, third, and fourth order, the necessary density of net points, and the development of these nets are discussed. Data on the accuracy of measuring these nets are given. The various schemes for building up nets of the second, third, and fourth order are investigated. Under

Card 2/4

the direction of D. A. Larin and A. A. Pchelina calculations for the evaluation of relative advantages of geodetic nets of various constructions the results of which are given here, were carried out at the Tsentral'naya vychislitel'naya chast' GUGK (Central Calculating Department of the Main Administration of Geodesy and Cartography). The conclusions drawn from these results are explained. The main conclusion runs as follows: Polygonal networks with free tops (tops with only two connections) are far inferior to polygonal networks or networks with bound tops obtained by means of angular and distance measurement. The most precise nets are those shown in figures 1 and 3. The papers by V. A. Velichko and I. I. Entin (Refs, footnote on p 35) are mentioned. For building up the State geodetic net of the second order, figures 10 and 11 are recommended, and for building up nets of the third and fourth order, figures 12 and 13. The new surveying technique and the new ways of net construction render it possible to select the most efficient technique. Therefore, the technical and economical data have to be considered. The following institutes are mentioned: Geodezicheskiy komitet Gosplana (Geodetic Committee of the Gosplan), Mezhduvedomstvennyy geodezicheskiy sovet (Interdepartmental Geodetic Committee), GUGCK, Tsentral'naya vychislitel'naya chast' GUGK (Central Calculating Department of the GUGK), and the VTU. There are 13 figures, 5 tables, and 3 Soviet references.

Card 3/4

AUTHOR: Sudakov, S. G.

S/006/60/000/04/001/019
B007/B005

TITLE: Preliminary Results of Construction and Use of Trihedral Signals

PERIODICAL: Geodeziya i kartografiya, 1960, Nr 4, pp 3-10 (USSR)

TEXT: The teams of the Glavnoye upravleniye geodezii i kartografii (Main Administration of Geodesy and Cartography) built composite trihedral signals at the points of the State geodetic net in 1959. More than 5,000 such signals were erected during the field season. About 1,000 of them were used for angular measurements at the points of triangulation of the 1st, 2nd, and 3rd order. In the construction of signals, Soviet surveyors used quite different principles than surveyors abroad. Instead of expensive and clumsy constructions, composite square wooden signals were built in the USSR. The pyramid of these signals is used as a support for the protractors, and does not rest (as in other countries) on the earth but on pillars placed 6 m below the platform. Experience of several decades shows that such signals 10-50 m high are well suited for angular measurements with an error of 0".5 - 0".7. Besides, this construction was much cheaper than that used abroad. It was attempted in the USSR to reduce the costs of signals even more. The first experiment with trihedral signals was made in 1932. They proved to

Card 1/3

be insufficiently rigid, and their construction was stopped in 1933. Now, the problem has been studied again, and a commission of the above-mentioned Main Administration recommended to pass over to the construction of trihedral signals in 1959, limiting their height to 39 m. These signals have a smaller base than those made in 1932. Besides, measures have been taken to reinforce the cramping of the main pillars. Experience made in 1959 showed that the teams satisfactorily fulfilled the task set. On the other hand, several brigades worked carelessly in building these signals, thus producing various shortcomings. The advantages of trihedral signals are described by means of results obtained in angular measurements. For the time being, it may be said that angular measurements carried out at points with trihedral signals are not inferior in quality to those carried out at points with square signals. The expenditure of work and material decreases by at least 20% with the use of trihedral signals. The building brigades of the technicians V. I. Yegorov, A. V. Yefimov, M. F. Zinov'yev, and V. N. Gayduk are mentioned for their high productivity. A conference held by building team leaders, building technicians, and observers in January 1960 generalized the working experience made in 1959, and decided on a number of measures which are described in short (to improve the construction of trihedral signals in 1960). After tests

Preliminary Results of Construction and Use of Trihedral Signals

S/006/60/000/04/001/019
B007/B005

to be made in spring 1960, it will be decided whether the upper part of the signal is to be made symmetrical (hexagonal) or trihedral as is the case at present. Papers by F. N. Krasovskiy and V. I. Fursov (Refs, Footnote on p 4) are mentioned. The Eksperimental'nyy optiko-mekhanicheskiy zavod TsNIIGAiK (Optic-mechanical Experimental Plant of the TsNIIGAiK) is also mentioned. There are 4 tables and 3 Soviet references.

Card 3/3

S/006/60/000/008/002/004/XX
B012/B060

AUTHOR: Sudakov, S. G.

TITLE: Main Trends of Technical Progress in the Field of Topographic and Geodetic Production

PERIODICAL: Geodeziya i kartografiya, 1960, No. 8, pp. 3 - 11

TEXT: The topographic and geodetic service has achieved a notable success in the time after the 21st Party Congress of the CPSU. The stereograph by Drobyshev and the stereoprojector by Romanovskiy have been used since 1959. The aerophotographic equipment has been greatly improved: gyrostabilizing devices for aerial cameras, topographic radar-altimeters, et al. Phototheodolites are increasingly used in highlands. Together with collapsible triangular signals used since 1959, also simple, transportable metal signals are being used since 1960. "Druzhba" saws powered by a gasoline engine are being used by nearly every building brigade. Optical telemeters for the construction of geodetic networks were first introduced in 1959 - 1960. A computer

Card 1/ 5

center with an electronic computer is being installed at the TsNIIGAiK. The adjustment of complicated geodetic networks is being prepared. The number of motor vehicles at departments and expeditions has been increased by 35%, and by 70% the number of tractors. Transparent plastics have been engraved since 1959 in preparing maps for printing. As many as 1549 suggestions for rationalization have been submitted to the enterprises of the GUGK in the time from 1959 to the middle of 1960. Still, it is noted that the success achieved could be even greater. The plan for 1959-1960 which has been approved by the Glavnoye upravleniye geodezii i kartografii (Main Administration of Geodesy and Cartography) has not been fully realized. Neither TsNIIGAiK nor EOMZ (eksperimental'nyy optiko-mekhanicheskiy zavod - byvshiy zavod Aerogeoinstrument) (Experimental Optical Equipment Plant formerly Aerogeoinstrument plant) have adopted necessary measures. An example is the slow rate at which the stereographs by Drobyshev have so far been introduced. The Novosibirskoye aerogeodezicheskoye predpriyatiye (Novosibirsk Aerogeodetic Enterprise) (I. G. Kopantsev, chief of stereoroom) achieved great success, notably the brigade

headed by L V Blagodatskikh. A slower working pace is observed by the Severo-Zapadnoye predpriyatiye (Northwestern Enterprise), the Vostochno-Sibirskoye predpriyatiye (East Siberian Enterprise), the Ukrainskoye predpriyatiye (Ukraine Enterprise), the Sredne-Aziatskoye predpriyatiye (Soviet Central Asia Enterprise). The Moskovskoye predpriyatiye (Moscow Enterprise) (M. A. Avilov chief of workshop) ranks last, and its team No. 14 is not even using gasoline-engine powered saws. Optical and radio telemeters have stood their test, and within the next 2 - 3 years TsNIIGAiK and EOMZ are expected to augment the production of these instruments. An urgent task is said to be the establishment of a sufficiently efficient computer center with electronic computers to serve the geodetic networks. A suction dredge for excavating pits down to a depth of 3 - 4 m and trenches down to a depth of 1 m must be built. The fact is deplored that none of the scientific research institutes cares to improve instruments and methods of leveling. An improvement of the limb graduation of goniometric devices and the reduction of diameter errors to ±1" are demanded. It is stated that the stereo topographic photography has not yet completely replaced

out and a sufficient number of helicopters for field teams and expeditions is requested

Card 5/5

SUDAKOV, S.G.; ALEKSANDROV, T.F.; BULANOV, A.I.; DURNEV, A.I.; YELISEYEV, S.V.; ZAKATOV, P.S.; IZOTOV, A.A.; KARLOV, G.M.; KUZ'MIN, B.S.; KUKUSHKIN, A.D.; KOLUPAYEV, A.P.; KOZLOVA, Ye.A.; LARIN, B.A.; LARIN, D.A.; LARIN, B.A.; LITVINOV, B.A.; MAZAYEV, A.V.; PELLINEN, L.P.; PETROV, A.I.; SOLOV'YEV, A.I.; TOMILIN, A.F.; URALOV, S.S.; USPENSKIY, M.S.; FOMIN, M.P.; SHISHKIN, V.N.; SHCHEGLOV, A.P.; SUDAKOV, S.G., otv. red.; KOMARKOVA, L.M., red. izd-va; SUNGUROV, V.S., tekhn. red.

[Instruction concerning the building-up of a state geodetic network in the U.S.S.R.] Instruktsiia o postroenii gosudarstvennoi geodezicheskoi seti Soiuza SSR; obiazatel'na dlia vsekh vedomstv i uchrezhdenii, proizvodiashchikh gosudarstvennye geodezicheskie seti. Moskva, Izd-vo geodez. lit-ry, 1961. 459 p. (MIRA 15:6)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i kartografii.

(Geodesy)

SUDAKOV, S.G.

Results of angular measurements from trilateral signals in 1960.
Geod.i kart. no.5:3-11 My '61. (MIRA 14:6)
(Triangulation signal towers) (Goniometry)

KOS'KOV, B.I., red.; NALIVKIN, A.N., red.; SUDAKOV, S.G., red.; STRASHNYKH, V.P., red. izd-va; KASIMOV, D.Ya., tekhn. red.

[Instructions SN 212-62 for topographic and geodetic work for city, village, and industrial construction]Instruktsiia po topogr-fogeodezicheskim rabotam dlia gorodskogo, poselkovogo i promysh-lennogo stroitel'stva (SN 212-62). Moskva, Gosstroiizdat, 1962. 99 p. (MIRA 15:12)

1. Russia (1923- U.S.S.R.)Gosudarstvennyy komitet po delam stroitel'stva.
(Surveying) (Building sites)

LITVINOV, Boris Alekseyevich; SUDAKOV, S.G., red.; KHROMCHENKO, F.I., red. izd-va; ROMANOVA, V.V., tekhn. red.

[Basic problems in constructing and adjusting traverse nets] Osnovnye voprosy postroeniia i uravnivaniia poligonometricheskikh setei. Moskva, Geodezizdat, 1962. 227 p. (MIRA 15:12)
(Traverses (Surveying))

39332
S/035/62/000/007/061/083
A001/A101

3,4000 (4303)

AUTHOR: Sudakov, S. G.

TITLE: Prospects of development of the astronomical-geodetic network in the USSR

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 7, 1962, 1, abstract 7G1 ("Tr. 3-go s"yezda Vses. astron.-geod. o-va, 1960", Moscow, AN SSSR, 1962, 73 - 82)

TEXT: A historical information on establishment of the astronomical-geodetic network (AGN) in the USSR is given. The accuracy of observations in AGN is characterized, according to data from many links, by the following indices: rms error of angle measurements (from misclosures of triangles) = ± 0".6, mean base misclosure = ± 6.2 (in units of sixth digit of logarithm); mean azimuthal miclosure = ± 2".0; mean relative error in measurements of the bases does not exceed 1/1,000,000; rms error in determining latitude = ± 0".3; the same for longitude = ± 0".45; the same for astronomical azimuth = ± 1".0. Many Laplace points were determined in the network; a considerable part of work on astronom-

Card 1/4

Prospects of development of...

ical-gravimetric leveling was performed. Successful development of AGN in the USSR made it possible to determine the dimensions of reference-ellipsoid (F. N. Krasowsky's ellipsoid) best fitted not only to the USSR territory but also to dimensions of the common Earth ellipsoid, and to introduce the unified coordinate system for almost the whole territory of the country. A great and responsible task is set forth at present for the State geodetic service, - to complete during the next few years the construction of AGN for the entire territory of the USSR. To solve in the best way this problem, the regions of forthcoming work were studied in detail (mainly eastern and northern regions of the country); systems and methods of network construction were selected, which ensured a high accuracy and were economically advantageous. The author presents the results of comparing the accuracy of standard link elements in first-class triangulation and 8 links in which, in addition to conventional angular measurements, triangle sides were measured by means of electric-optical range finders (with relative error of 1/300,000) in various variants (all or some connecting sides were measured, as well as all intermediate sides and all sides of triangles), or additional Laplace points were determined. On the basis of these materials, the conclusion has been drawn that those links have the highest accuracy in which

Card 2/4

Prospects of development of...

additionally measured were three connecting sides, uniformly distributed over the link, and Laplace azimuths being determined at their ends, and also the links in which all angles and sides were measured. However, construction of links in these variants calls for considerable additional expenditures. Remaining 6 variants of links considered differ but slightly in accuracy from the standard link. The possibility is admitted of using standard links of first-class triangulation also for the further construction of AGN. It is noted that for links of AGN can be used also main rows of the second class (in which angular errors do not exceed 1") after measuring connecting sides and determining Laplace points at the ends of these sides. It is intended to include ~25,000 km second-class rows, modernized by the indicated method, into AGN. It will be expedient for many regions of the USSR to traverse, instead of first-class triangulation links, polygonometric links of the same class with sides measured with electric-optical range finders or radio range finders. In some regions of the USSR, AGN can be constructed more expedient as continuous triangulation network or first-class polygonometry; in cases of existence of second-class continuous networks, they can be used for the construction of AGN. It is recommended, to ensure the high accuracy of angular measurements, to employ, as a rule, theodolites TT 2"/6" and,

Card 3/4

as an exception, OT-02 theodolites; in the latter case, programs of angular measurements must be strengthened by at least 1.5 times. Considerations are presented on the subsequent joint adjustment of the entire AGN of the USSR.

N. Bruyevich

[Abstracter's note: Complete translation]

SUDAKOV, S.G.; ALEKSANDROV, T.F.; BAGROV, M.A.; BULANOV, A.I.; KAMENSKAYA, M.V.; KUZ'MIN, B.S.; LITVINOV, B.A.; SINYAGINA, M.I.; TIMOFEYEV, A.A.; ENTIN, I.I. Prinimal uchastiye SINYAGINA, V.I.; KOMAR'KOVA, L.M., red.izd-va; ROMANOVA, V.V., tekhn. red.

[Instructions for 1st, 2d, 3d, and 4th-class leveling] Instruktsiia po nivelirovaniiu I, II, III, i IV klassov. 4 izd. dop. i ispr. Moskva, Gosgeoltekhizdat, 1963. 110 p. (MIRA 16:6)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i kartografii.

(Leveling)

SUDAKOV, S.G.

Scientific and technical problems at the present stage of topographic and geodesic research. Geod. i kart. no.10:3-11 O '63.
(MIRA 16:12)

SUDAKOV, S.G.

Length of the technological cycle of producing 1 : 25,000 and 1 : 10,000 topographic maps. Geod. i kart. no.1:3-10 Ja '64. (MIRA 17:9)

VOLKHONIN, V.S.; LISHNEVSKIY, E.N.; TARKOV, A.P.; SUDAKOV, S.P.

Lower Cretaceous sediments in the southern Zeya-Bureya downwarp in connection with oil and gas potentials. Geol.i geofiz. no.5:9-18 '61. (MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki, Moskva.
(Zeya-Bureya Plain—Petroleum geology)
(Zeya-Bureya Plain—Gas, Natural—Geology)

ACC NR: AP7007609 SOURCE CODE: UR/0108/66/021/008/0001/0005

SUDAKOV, S. S.

"Optimal Filtration of Signals in the Presence of Random Noise"

Radiotekhnika, v. 21 , no. 8, 1966, 1-5

TOPIC TAGS: radio noise, random noise signal, electric filter

Abstract: The problem of filtration of a signal known with accuracy to class of function in the presence of random additive noise is analyzed on the basis of the theory of orthogonal functional series. A method is developed for finding a differential equation which describes the ideal linear filter. Examples are presented. The ideal linear filter for a sequence of possible signals can be analyzed as a parallel connection of elementary filters described by first order differential equations for certain fixed values of the parameters α_{nk}. The impulse characteristic of such an elementary filter has the form

$$K'_k(t, \tau) = \frac{S_k(t)S_k(\tau)}{\|S_k(t)\|^2}$$

with known pulse function of the linear filter we can find the differential equation which describes it. With zero initial conditions this equation has the form

Card 1/2 UDC: 621.391.172

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ACC NR: AP7007609

$$\dot{\gamma} = \frac{\dot{S}_k(t)}{S_k(t)} = \frac{S_k^2(t)}{\int_0^T S_k^2(\tau)\,d\tau}\left[X(t) - Y(t)\right],$$

where a point over a function signifies time differentiation.

The author thanks corresponding Member AN SSSR V. I. Siforov and the collective of the department KPU MEN for observations and help during the discussion of the work. Orig. art. has: 17 formulas. [JPRS: 38,330]

Card 2/2

SAVCHENKO, S.S., general-mayor; ALEKSANDROV, A.A., polkovnik; GRECHIKHIN, A.A., polkovnik; KOZLOV, A.F., polkovnik; KOZLOV, A.F., polkovnik; LOVI, A.A., polkovnik; LOSHCHILOV, A.A., polkovnik; MOLOCHKOV, A.K., polkovnik; MUTSYNOV, S.S., polkovnik; SEMIKOLENOV, N.P., polkovnik; SUDAKOV, S.V., polkovnik; SHINKAREV, G.M., polkovnik; VIL'CHINSKIY, I.K., polkovnik, red.; SOLOMONIK, R.L., tekhn. red.

[Methods of preparation to use weapons; firearms and grenade launchers]Metodika ognevoi podgotovki; strelkovoe oruzhie i granatometry. Moskva, Voenizdat, 1962. 318 p. (MIRA 16:2)

1. Russia (1923- U.S.S.R.)Armiya. Sukhoputnye voyska. Upravleniye boyevoy podgotovki voysk svyazi.
(Russia--Army--Firearms) (Grenades)

BONDARENKO, S.S.; KASHANSKIY, B.R.; KAPUSTIN, V.Ya.; KRAMARENKO, P.I.; LOVI, A.A.; MIKHEYEV, I.V.; POLETAYEV, A.S.; SELEZNEV, V.I; SUDAKOV, S.V., polkovnik, red.; VIL'CHINSKIY, I.K., red.

[Instruction in firing at night from small arms and grenade launchers] Obuchenie strel'be noch'iu iz strelkovogo oruzhiia i granatometa. Moskva, Voenizdat, 1964. 214 p.
(MIRA 18:4)

SUDAKOV, V.A.

"The Wave-Guide Properties of Two-Conductor Transmission Lines and Monaxial Cable"
Symposium of scientific works on wire communications, Academy of Sciences USSR, 1949

SUDAKOV, V.A.

Wave guide properties of two-wire transmission lines and nonaxial cables. Sbor.nauch.rab.po prov.sviazi [no.1]:73-110 '49. (MLRA 7:5)
(Telephone cables) (Wave guides) (Telegraph cables)

SUDAKOV, V.A.

Application of bipolar coordinate systems to the calculation of static and stationary fields of communication lines. Sbor.nauch.rab.po prov.sviazi no.2:31-58 '53. (MLRA 7:5)
(Telephone lines) (Mathematical physics) (Telegraph lines)

SUDAKOV, V.A.

Primary high-frequency parameters of a three-phase electric transmission line. Sbor. nauch. rab. po prov. sviazi no.6:106-111 '57.
(Telegraph lines) (Differential equations) (MIRA 11:5)

SUDAKOV, V.A.; ARKHIPOVA, K.M.

Effect of electric ac railroads on overhead telecommunication lines. Sbor. nauch. rab. po prov. sviazi no.6:112-123 '57. (MIRA 11:5)
(Electric railroads) (Telecommunication)

SAVEL'YEV, B.A.; SUDAKOV, V.A.

Optical study of snow crystals. Inform.sbor.o rab.Geog.fak.Mosk. gos.un.po Mezhdunar.geofiz.godu no.3:92-94 '58. (MIRA 13:5)
(Snow--Optical properties)

6(0) PHASE I BOOK EXPLOITATION SOV/2792

Akademiya nauk SSSR. Laboratoriya sistem peredachi informatsii

Problemy peredachi informatsii, vyp. 2 (Problems of Information Transfer, Nr. 2) Moscow, Izd-vo AN SSSR, 1959. 99 p. Errata slip inserted. 2,000 copies printed.

Ed. of Publishing House: Ye.K. Vinnichenko; Tech. Ed.: Yu. Rylina; Editorial Board: A.A. Kharkevich (Resp. Ed.), V.N. Kuznetsov, I.A. Ovseyevich, V.N. Roginskiy, and V.G. Solomonov.

PURPOSE: This collection of articles may be useful to engineers engaged in the design of wire communication systems.

COVERAGE: The authors discuss the theory of transmission of information and describe methods used in transmission. They consider attenuation of a two-wire line and cable impedance and discuss problems of coding, decoding and predicting communication signals. They also consider statistical analysis of information and discuss systems used. No personalities are mentioned.

Card 1/6

Arkhipova, K.M. and V.A. Sudakov. Determination of Attenuation and a Propagation Constant of a Two-wire Line, Taking Into Account Finite Ground Conductivity 33

The authors present a method of calculating propagation constant from a transcedental equation obtained from field equations for air and ground. They also present numerical examples in which simplifications for actual frequency ranges and ground conductivity were made. There are 3 references: 2 Soviet and 1 English.

Sinay, Ya.G. The Least Error and the Best Method of Transmitting Stationary Information With Linear Coding and Decoding for the Case of Gaussian Communication Channels 40

The author derives a functional expressing the mean-square error of transmission and obtains the best method of transmitting information, with linear coding and decoding, by Gaussian communication channels. There are 3 references, all Soviet (including 1 translation).

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S/024/60/000/01/018/028
E310/E335

AUTHORS: Arkhipova, K.M. and Sudakov, V.A. (Moscow)

TITLE: Filtering the H_{01} Wave in a Waveguide With an Iris

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1960, Nr 1, pp 144-148 (USSR)

ABSTRACT: Separation of the H_{01} waves from higher modes of the same type (H_{02}, H_{03}, etc) in cylindrical waveguides is considered an important problem in long-range waveguide communication. The difficulty lies in the fact that H_{02}, H_{03}, ... waves have the same structure as the H_{01}, i.e. they do not have a longitudinal electric component along the waveguide walls; thus, they pass without attenuation through any known filter designed to suppress waves with such a component. The article contains the results of theoretical study on the possibility of filtering out the H_{01} waves by means of waveguide's irises, thin discs with openings of equal radii in the centre of each. The irises are distributed uniformly along the

Card1/2

Filtering the H_{01} Wave in a Waveguide With an Iris

length of the waveguide. To simplify calculations the conductivity of the dielectric inside the waveguide is assumed zero and the conductivity of the metallic walls of the waveguide and of the iris are assumed infinitely large. In the first paragraph, the electromagnetic field in a waveguide with irises is considered. In the second paragraph, the boundary conditions and the transcendent equations for constant transmission are given. In the third paragraph, an approximate method of calculating the wave filter is described and the derived formulae are utilised for calculating the practical example of a waveguide filter with the following data: wavelength - 0.54 to 0.68 cm, iris opening - 0.6 cm, waveguide diameter - 2.4 cm, spacing between the irises - 2.4 cm. There are 3 Soviet references.

SUBMITTED: June 30, 1959

Card 2/2

28587

S/562/61/000/010/007/007
E140/E435

9.1310 (also 1127, 3301)

AUTHORS: Arkhipova, K.M. and Sudakov, V.A.

TITLE: H_{0m}-waves in a diaphragmed waveguide

SOURCE: Akademiya nauk SSSR. Laboratoriya sistem peredachi informatsii. Problemy peredachi informatsii, no.10, 1961, 108-118

TEXT: This paper was presented at the Seminar of the Laboratory held on May 16, 1959

In long distance waveguide communications lines using the H_{01}-wave, all parasitic flow can be eliminated by using suitable filters which suppress waves having a longitudinal electric component which, however, does not function for the H_{0m}-waves, $m \geqslant 2$. A round waveguide of the cross section shown in the figure is considered, where the dielectric constant in the interior of the waveguide is taken equal to zero and the conductivities of the metal walls and diaphragms taken infinite. The author first derives the transcendental equation for the propagation constant of the diaphragmed waveguide

Card 1/

H_{0m}-waves in a diaphragmed ...

$$\begin{vmatrix} \ldots\ldots S_{1-1}B_{1-1} & S_{10}B_{10} & S_{11}B_{11} & S_{12}B_{12}\ldots\ldots \\ \ldots\ldots C_{1-1}D_{1-1} & C_{10}D_{10} & C_{11}D_{11} & \ldots\ldots\ldots \\ \ldots\ldots S_{2-1}B_{2-1} & S_{20}B_{20} & S_{21}B_{21} & \ldots\ldots\ldots \\ \ldots\ldots C_{2-1}D_{2-1} & C_{20}D_{20} & C_{21}D_{21} & \ldots\ldots\ldots \\ \ldots\ldots\ldots\ldots & S_{30}B_{30} & \ldots\ldots & \ldots\ldots\ldots \\ \ldots\ldots\ldots\ldots & \ldots\ldots & \ldots\ldots & \ldots\ldots\ldots \end{vmatrix} = 0. \quad (36)$$

where

$$B_{nq} = \frac{Z_1(k_{1n}a)}{k_{1n}Z_0(k_{1n}a)} - \frac{J_1(k_n^{(1)}a)}{k_q^{(1)}J_0(k_q^{(1)}a)}; \quad (34)$$

$$D_{nq} = \frac{Z_1(k_{2n}a)}{k_{2n}Z_0(k_{2n}a)} - \frac{J_1(k_v^{(1)}a)}{k_q^{(1)}J_0(k_q^{(1)}a)}. \quad (35)$$

Card 2/7

H_{0m}-waves in a diaphragmed ...

$$S_{nq} = j\frac{\sin\left[\left(\alpha_q + \frac{2\pi n}{l}\right)\frac{l}{2}\right]}{\alpha_q + \frac{2\pi n}{l}} - j\frac{\sin\left[\left(\alpha_q - \frac{2\pi n}{l}\right)\frac{l}{2}\right]}{\alpha_q - \frac{2\pi n}{l}}; \tag{29}$$

$$\frac{1}{2}M_n l = \sum_{q=-\infty}^{\infty} P_q C_{nq}; \tag{30}$$

$$C_{nq} = \frac{\sin\left[\left(\alpha_q + \frac{(2n-1)\pi}{l}\right)\frac{l}{2}\right]}{\alpha_q + \frac{(2n-1)\pi}{l}} + \frac{\sin\left[\left(\alpha_q - \frac{(2n-1)\pi}{l}\right)\frac{l}{2}\right]}{\alpha_q - \frac{(2n-1)\pi}{l}}.$$

$$Z_1(kr) = N_1(kb)J_1(kr) - J_1(kb)N_1(kr). \tag{18}$$

$$Z_0(kr) = J_0(kr)N_1(kb) + N_0(kr)J_1(kb).$$

Card 3/ 7

where the propagation constant γ_0 is related to the parameters α_q and q by

$$\alpha_q = \frac{\gamma_0}{l} + q\frac{2\pi}{l}. \qquad (21)$$

and q is an index of summation ($-\infty < q < +\infty$). In view of the nature of Eq.(36), solutions for a, b and l must be obtained numerically. Utilizing the fact that if Eq.(36) has only a single root γ_{01} at a given frequency, only the H_{01}-wave would propagate in such a line. Over a given band of frequencies about the frequency of the solution, the distortion may remain in satisfactory limits. Then Eq.(36) can be simplified, retaining only two components (n = 1, q = 0, 1):

$$\begin{vmatrix} S_{10}B_{10} & S_{11}B_{11} \\ C_{10}D_{10} & C_{11}D_{11} \end{vmatrix} = 0. \qquad (37)$$

For arbitrary integer n the value of b - a can be chosen to

H_{0m}-waves in a diaphragmed ...

satisfy the condition

$$Z_{01} = 0 \quad \text{or} \quad (b - a)\sqrt{\omega^2\mu\varepsilon} = \pi n \tag{41}$$

If we put p_i for the i-th root of the Bessel function J_1, the parameter a will be defined by the condition

$$\frac{p_1}{\omega\sqrt{\mu\varepsilon}} < a \leqslant \frac{p_2}{\omega\sqrt{\mu\varepsilon}}. \tag{44}$$

For given b and a we can now determine l

$$l = \frac{2\pi}{\sqrt{\omega^2\mu\varepsilon - \frac{p_1^2}{b^2}} - \sqrt{\omega^2\mu\varepsilon - \frac{p_1^2}{a^2}}}. \tag{45}$$

and estimate the distortion from

Card 5/7

$$K(\omega)=\frac{\sqrt{\omega^2\mu\varepsilon-\frac{p_1^2}{l^2}}-\sqrt{\omega^2\mu\varepsilon-\frac{p_1^2}{a^2}}-\frac{2\pi}{l}}{\sqrt{\omega^2\mu\varepsilon-\frac{f_1^2}{b^2}}}. \qquad (46)$$

A numerical example is given showing that the phase distortion does not exceed 3% in a band of frquencies between 28 x 10^{10} cps and 35 x 10^{10} cps. There are 1 figure and 2 references: 1 Soviet and 1 non-Soviet. The reference to an English language publication reads as follows: Ref.2: Sarbacher, R.I. and Edson, W.A., Hyper and Ultrahigh Frequency Engineering, 1943. Russian translation, Svyaz'izdat, 1947.

Card 6/7

ARKHIPOVA, K.M.; SUDAKOV, V.A.

Calculation of losses in a septate waveguide with finite conductivity of the walls. Trudy, pered. inform. no.15:94-102: '63
(MIRA 17:8)

GOL'DIN, A.L., red.; ZHILENKOV, V.N., red.; IZMAYLOVA, R.A., red.; KRAYEV, G.A., red.; KRICHEVSKIY, I.Ye., red.; KYAKK, V.A., red.; SOKOLOV, I.B., red.; SUDAKOV, V.B., red.; FOMIN, G.D., red.; SHUL'MAN, S.G., red.; ABRAMSON, L.S., tekhn. red.

[Collection of reports on hydraulic engineering; the third engineering conference of young scientists] Sbornik dokladov po gidrotekhnike; tret'ia nauchno-tekhnicheskaia konferentsiia molodykh nauchnykh rabotnikov. Moskva, Gosenergoizdat, 1961. 183 p. (MIRA 17:2)

1. Leningrad. Nauchno-issledovatel'skiy institut gidrotekhniki.

STOL'NIKOV, V.V., prof., doktor tekhn.nauk; SUDAKOV, V.B., inzh.

Determining the tensile strength of concrete. Izv. VNIIG 60: 128-141 '58. (MIRA 13:6)
(Concrete—Testing)

STOL'NIKOV, V.V., prof., doktor tekhn.nauk; GUBAR', A.S., starshiy nauchnyy sotrudnik, kand.tekhn.nauk; SUDAKOV, V.B.

Influence of age on the principal characteristics of hydraulic concretes. Izv.VNIIG 64:55-65 '60. (MIRA 14:5)
(Concrete)

GIRSHKAN, I.A., otv. red.; ARABADZHYAN, I.R., red.; GORELIK, L.V., red.; YERYKHOV, B.F., red.; KYAKK, V.A., red.; PECHENKIN, M.V., red.; PAVLOVSKAYA, L.N., red.; SUDAKOV, V.B., red.; SHUL'MAN, S.G., red.

[Collection of reports on hydraulic engineering] Sbornik dokl[illegible] po gidrotekhnike. Moskva, Gosenergoizdat, 1961. 243 p. (MIRA 17:7)

1. Nauchno-tekhnicheskaya konferentsiya molodykh nauchnykh rabotnikov, 2d, 1961.

STOL'NIKOV, V.V., prof., doktor tekhn. nauk; SUDAKOV, V.B., inzh.

Aspects of using a resonance method in studying concrete.
Bet. i zhel.-bet. 8 no.8:354-357 Ag '62. (MIRA 15:9)
(Concrete--Testing)
(Vibration)

MOSHCHANSKIY, N.A., doktor tekhn.nauk, prof.; MEDVEDEV, V.M., kand.tekhn. nauk; KAPKIN, M.M., kand.tekhn.nauk; SUDAKOV, V.B., inzh.; KONONENKO, A.S., inzh.

Increasing the stability of reinforced concrete cooling towers. Prom.stroi. 40 no.11:36-39 '62. (MIRA 15:12)
(Cooling towers) (Concrete—Corrosion)

SOLNYSHKOV, V.A., red.; ARABADZHYAN, I.R., red.; GOL'DIN, A.L., red.; ZHAROV, N.I., red.; IOKHEL'SON, A.Ya., red.; KRICHEVSKIY, I.Ye., red.; SKOMOROVSKIY, Ya.G., red.; SUDAKOV, V.B., red.;SHEVCHENKO, A.N., red.; RZHONSNITSKIY, B.N., red.

[Collection of reports on hydraulic engineering] Sbornik dokladov po gidrotekhnike. Moskva, Gosenergoizdat, 1963. 262 p. (MIRA 17:9)

1. Nauchno-tekhnicheskaya konferentsiya molodykh nauchnykh rabotnikov. 5th, Leningrad, 1959.

TOLKACHEV, L.A., inzh.; KRICHEVSKIY, I.Ye., inzh.; SUDAKOV, V.B., inzh.; ZHILIN, V.A., inzh.

Use of a polyethylene film in the prevention of cracking due to shrinkage. Energ. stroi. no.1:56-59 '65. (MIRA 18:7)

ARHEN'YEV, A.S., inzh.; KOZLOV, A.D., inzh.; LEPEKHIN, I.P., inzh.; SUDAKOV, V.F., inzh.

Winter concreting of foundations with electric curing of the concrete mix. Prom. stroi. 42 no.9:41-42 S '64. (MIRA 17:10)

ACC NR: AR7002221 (AN) SOURCE CODE: UR/0275/66/000/010/A011/A011

AUTHOR: Kaz'min, G. S.; Noskov, D. A.; Pankovets, N. G.; Sudakov, V. I.; Proskurovskiy, D. I.

TITLE: Electron-beam welding of leads in electrovacuum devices

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 10A74

REF SOURCE: Tr. Tomskogo in-ta radioelektron. i elektron. tekhn., no. 4, 1965, 112-114

TOPIC TAGS: electron beam welding, tungsten, ~~welding~~, nickel ~~welding~~, flux, ~~electronbeam~~, ~~tungsten-nickel wire~~ electrovacuum, electrovacuum equipment, weld evaluation

ABSTRACT: An experimental investigation was made of electron-beam welding of leads in electrovacuum equipment, which were made of tungsten and nickel components. Acted upon by the accelerated and focused electron beam in vacuum, the tungsten component generates the heat which fuses the ends of the two wires. The leads are welded on an electron beam device. The components to be welded are fastened to a mandrel, placed in the operating chamber. During welding, the com-

Card 1/2

UDC: 621.3.032

ACC NR: AR7002221

ponents are brought to a distance at 0.2—0.3 mm. The nickel component is fed the tungsten component by a spring mounted on the mandrel. An unetched microscopic analysis 500X showed no defects in the weld. The weld was dense, without pores, cracks, and inclusions. [Translation of abstract] [NT]

SUB CODE: 13/

Card 2/2

L 18471-66 EWT(m)/EWP(v)/T/EWP(t)/EWP(k) JD/HM

ACC NR: AM6009960 SOURCE CODE: UR/0137/65/000/012/E036/E036

AUTHOR: Kaz'min, G. S.; Moskov, D. A.; Pankovets, N. G.; Proskurovskiy, D. I.; Sudakov, V. I.; Shangin, A.S.

ORG: none

TITLE: Electron-beam welding of materials in a vacuum

SOURCE: Ref. zh. Metallurgiya, Abs. 12E283

REF SOURCE: Sb. dokl. k Novosib. nauchno-tekhn. konferentsii po mashinostr. Ch. 1. Novosibirsk, 1964, 115-122

TOPIC TAGS: electron beam welding, vacuum welding, metal cutting

TRANSLATION: The authors describe the advantages of the electron-beam method for welding metal over other methods. Units are described for welding, drilling and cutting metals with the use of an electron beam. These installations were developed in the Department of Electronic Devices at the Tomsk Institute of Radioelectronics and Electronic Technology. V. Fomenko [JPRS]

SUB CODE: 13

Card 1/1

UDC: 621.791.72

IRODOV, M.V., kandidat tekhnicheskikh nauk; PAROLO, L.V., inzhener; SUDAKOV, V.M., inzhener.

Continuous splitting of fats in autoclaves without a catalyst. Masl.-zhir.prom. 21 no.8:16-19 '55. (MLRA 9:3)

1. Vsesoyuznyy nauchno-issldeovatel'skiy institut zhirov (for Irodov, Parolo); 2. Rostovskiy maslozhirkombinat (for Sudakov).
(Oils and fats)

LINNIK, Yu.V.; ROMANOVSKIY, I.V.; SUDAKOV, V.N.

Nonrandomized homogeneous test in Behrens - Fisher's problem.
Dokl. AN SSSR 155 no.6:1262-1264 Ap '64. (MIRA 17:4)

1. Leningradskoye otdeleniye Matematicheskogo instituta im. V.A. Steklova AN SSSR. 2. Chlen-korrespondent AN SSSR (for Linnik).

SUDAKOV, V.N.

Criterion of compactness in functional spaces. Usp.mat.nauk 12 no.3:221-224 My-Je '57. (MIRA 10:10)
(Aggregates)

16(1)
AUTHOR: Sudakov, V.N.

SOV/20-127-3-11/71

TITLE: Linear Sets With Quasi-Invariant Measure

PERIODICAL: Doklady Akademii nauk SSSR,1959,Vol 127,Nr 3,pp 524-525 (USSR)

ABSTRACT: The author considers σ - finite measures μ which are defined on the elements of a σ - algebra $\mathfrak{L}_\mu$ of subsets of a linear space E.
Theorem : Let E be a non-separable, linear metric space; μ a finite measure defined on the σ -algebra $\mathfrak{L}_\mu$ which contains all spheres. Then μ is not quasi-invariant.
Theorem : Let E be separable and metric; μ a quasi-invariant measure; $\mathfrak{L}_\mu$ is assumed to contain spheres. Then E is σ - pre-compact (denumerable union of completely bounded sets).
Theorem : Let μ be a finite quasi-invariant measure defined on the σ - algebra $\mathfrak{L}_\mu$ of subsets of a linear space E ; let $\mathfrak{L}_\mu$ be invariant with respect to the translation and homotety operations. Let T be a convex balanced set of positive measure.

Card 1/2

Linear Sets With Quasi-Invariant Measure SOV/20-127-3-11/71

Then T possesses a finite deficiency, i.e. $T = L + T'$, where L is a linear set of finite deficiency and T' is convex (i.e. the space $L = E / \bigcap_{\lambda > 0} \lambda T$ is finite-dimensional).

There is 1 American reference.

ASSOCIATION: Leningradskoye otdeleniye Matematicheskogo instituta imeni V.A. Steklova Akademii nauk SSSR (Leningrad Department of the Mathematical Institute imeni V.A. Steklov, AS USSR)

PRESENTED: April 7, 1959, by V.I. Smirnov, Academician

SUBMITTED: March 25, 1959

Card 2/2

PHASE I BOOK EXPLOITATION SOV/4207

Penoplastmassy; sbornik statey (Foam Plastics; Collection of Articles) Moscow, Oborongiz, 1960. 182 p. Errata slip inserted. 5,050 copies printed.

Ed.: A.A. Moiseyev, Candidate of Technical Sciences, V.V. Pavlov, and M.Ya. Borodin; Managing Ed.: A.S. Zaymovskaya, Engineer; Ed. of Publishing House: I.A. Suvorova; Tech. Ed.: V.I. Oreshkina.

PURPOSE: This book is intended for engineers and technicians planning and manufacturing products and structures using lightweight fillers, and for workers of the foam plastic industry.

COVERAGE: The volume contains 13 studies on foam plastics and foaming agents. Some of the studies provide data on the technology of producing foam plastics from polystyrene and polyvinyl chloride, and data on thermosetting polymers (phenol rubber compositions, polyurethane foam, polyepoxy foam, and foam plastic sheets based on organic silicon resins). Other studies contain data on the composition of foam plastics, the effect of technological factors and volumetric weight on the physical, mechanical, and dielectric properties of foam plastics, and on the fields of application of foam plastics. Several studies deal with the production technology of radomes and reflectors for antenna installations in aircraft units. It is stated in the foreword that the Soviet Union produces and uses foam plastic sheets based on thermoplastic and thermosetting polymers of rigid, elastic, foamy, and porous structure. Fifteen such plastics including some of their specifications and applications are listed. There are no bibliographies but the authors cite Soviet and other authorities including A.A. Berlin, the author of Osnovy proizvodstva gazonapolnennykh plastmass i elastomerov (Principles of Production of Gas Filled Plastics and Elastomers) published by Goskhimizdat in 1954.

Rogov, L.V., and V.V. Pavlov. Production of Polystyrene Foam Based on Different Foaming Agents 45
This study presents experimental data on the physical and mechanical properties of polystyrene foam produced using four different foaming agents. It describes the properties of the foaming agents, the composition of the foam plastic sheets, and pressing conditions for different compositions.

Sudareva, V.Ya. Hollow Foam Plastic Sheets 50
This study presents experimental data on hollow and compact foam plastic sheets. It is concluded that either type of foam can be used as filler for various structures and that the use of such fillers will reduce the weight and cost of the product.

Shikina, T.V. and V.V. Pavlov. Making Products From Polystyrene Foam Using Polymer and Monomer Pastes 53
The following conclusions were reached: 1) polystyrene foam with polymer and monomer paste is suitable for products of various depth and diameter requiring no mechanical processing or some processing of the inner contour 2) the physical and mechanical properties of this foam do not differ from those of foam plastic sheet PS-1, except in specific impact strength which is approximately two times lower than in the foam plastic sheet PS-1 3) the high fluidity of polymer and monomer pastes permits pressing and polymerization at low specific pressures and consequently eliminates the use of heavy hydraulic presses 4) polymer and monomer paste contains 50 percent cheaper styrene consequently lowering the cost of the finished product.

Sudakov, V.N. Industrial Experience Producing Foam Plastic Sheets by the Pressing Method 81
The author lists the advantages and disadvantages of the pressing method and describes the steps in manufacturing foam plastic sheets by this method. He concludes that the use of foam plastic sheets under industrial conditions has shown that the pressing method is suitable for the production of materials of high physical and mechanical properties. Furthermore, the output of finished products can be increased by installing several molding presses at each story of a multistory press and by foaming the intermediate products in multistory containers and molds.

Popov, V.A. and V.A. Kontrat'yeva. Foam Plastic Sheets Based on Phenol Formaldehyde Resin and Its Combinations With Rubber and Fillers 91
This is a detailed study of foam plastic sheet production based on phenol formaldehyde lacquer resin (foam plastic sheet FF) and on combinations of this resin with acrilnitrile (foam plastic sheet of the FK type). In the Soviet Union these foam plastics are produced by the non-pressure method and are among the most commonly used products.

Sudakov, V.N.

S/081/62/000/004/078/087
B138/B110

AUTHOR: Sudakov, V. N.

TITLE: Pilot test in the production of foam plastics by the press method

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1962, 561, abstract 4P56 (Sb. "Penoplastmassy", M., Oborongiz, 1960, 81-90)

TEXT: The article describes the technological process for the production of foam plastics by a press method, the basic stages of which are preparation of the composition, pressing of the composition and foaming of the half-finished product. Optimum conditions for each stage are given, and also the range and physical and mechanical properties of home-manufactured foam plastics produced by this method. The advantages and disadvantages of the press method of producing foam plastics are discussed. [Abstracter's note: Complete translation.]

Card 1/1

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S/043/60/019/004/008/015XX
C 111/ C 333

16.2800

AUTHOR: Sudakov, V. N. 16

TITLE: On Quasi-Invariant Measures in Linear Spaces 16

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya matematiki, mekhaniki i astronomii, 1960, Vol.19, No.4, pp. 5-8

TEXT: Let μ be a σ-finite measure which is defined on the elements B of a certain σ-algebra $\mathfrak{B}$ of subsets of the linear space L. Assume that $\mathfrak{B}$ is invariant under the operations of homothety and translation. Let $\mathfrak{B}_0 \subset \mathfrak{B}$ be the subset of the sets of measure zero. The measure μ is called quasi-invariant relative to translations, if B_0 is invariant under the translations by arbitrary elements of L.

Theorem 1: In a non-separable linear pseudometric space there exists no measure quasi-invariant under translations which is defined on all spheres and their homotheties.

Conclusion: In the separable linear metric space which is no σ-precompact, there exists no measure quasi-invariant under the translations which is defined on the spheres.

Theorem 2: Let $T \in \mathfrak{B}$ be a convex symmetric set of positive

Card 1/2

84905

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C 111/ C 333

On Quasi-Invariant Measures in Linear Spaces

measure. Then T has a finite defect, i. e. $T = L' + T'$, where L' is a linear and T' a (convex) finite-dimensional set (or, in other words: the space $L' = L / \bigcap_{\lambda \to 0} \lambda T$ is finite-dimensional).

The author thanks D. A. Raykov, A. S. Dynin and B. M. Makarov. He mentions J. M. Gel'fand, J. V. Girsanov and B. S. Mityagin.

The author essentially uses the theorem (Ref. 2) that a finite measure is concentrated in a separable metric space on a σ-precompact (denumerable union of completely bounded sets).

There are 3 references: 1 Soviet, 1 French and 1 American.

Card 2/2

SUDAKOV, V.N.

Extension of measures from Baire sets in nonseparable metric linear spaces. Sib. mat. zhur. 2 no.6:946-948 N-D '61. (MIRA 15:7)

(Aggregates) (Distance geometry)

PELCZYNSKI, A. (Warsaw); SUDAKOV, V. N. (Leningrad)

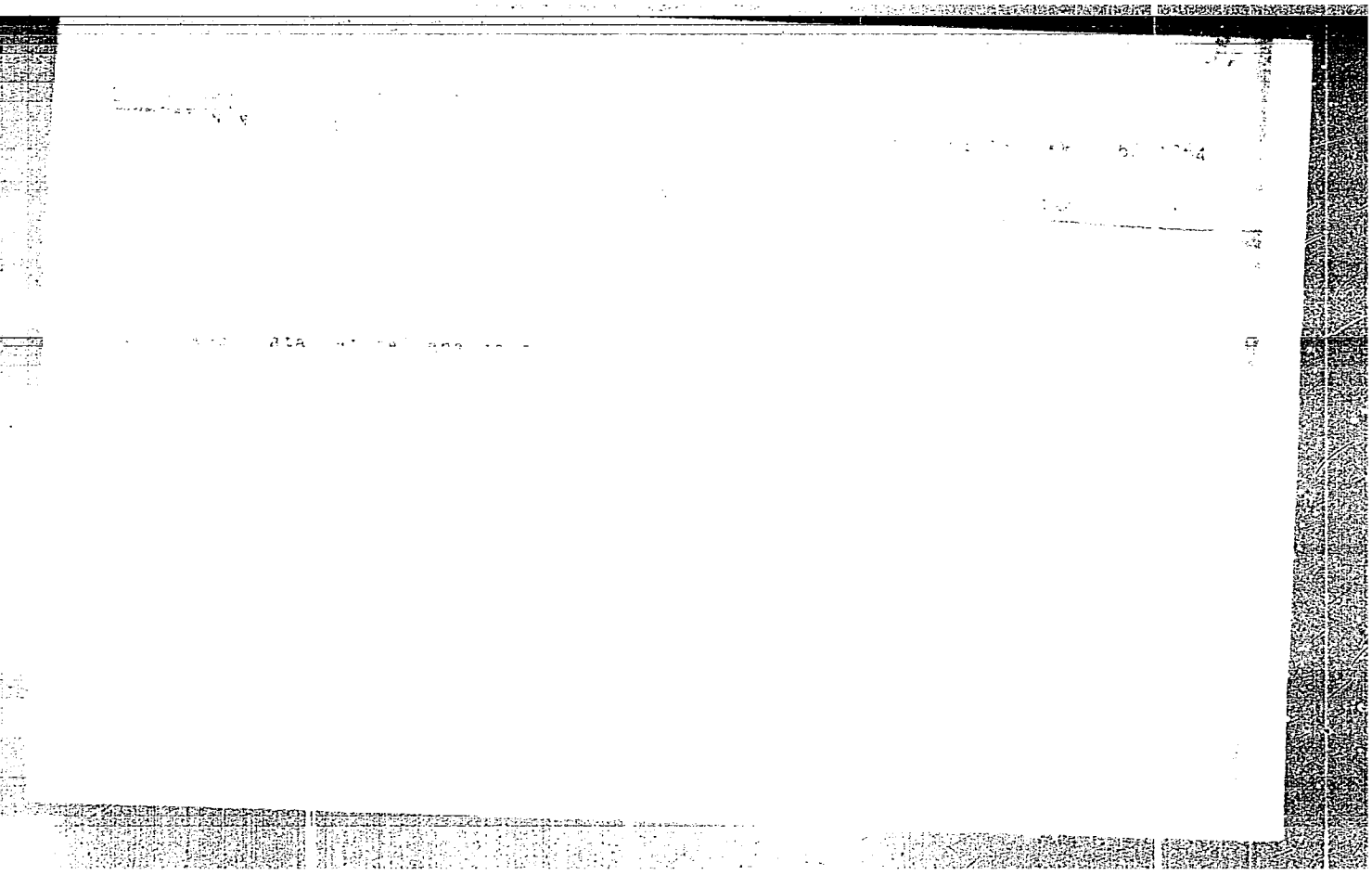
Remarks on non-complimented subspaces of the space m(s).
Colloquium mathem 9 no. 1:85-88 '62.

SUDAKOV, V.N.

Class of compacts in Hilbert space. Usp.mat.nauk 18 no.1:181-187 Ja-F '63. (MIRA 16:2)
(Ellipsoid) (Hilbert space)

SUDAKOV, V.N.

Characterization of the quasi-invariance of measures in Hilbert space. Usp.mat.nauk 18 no.1:188-190 Ja-F '63. (MIRA 16:2)
(Hilbert space) (Topology)



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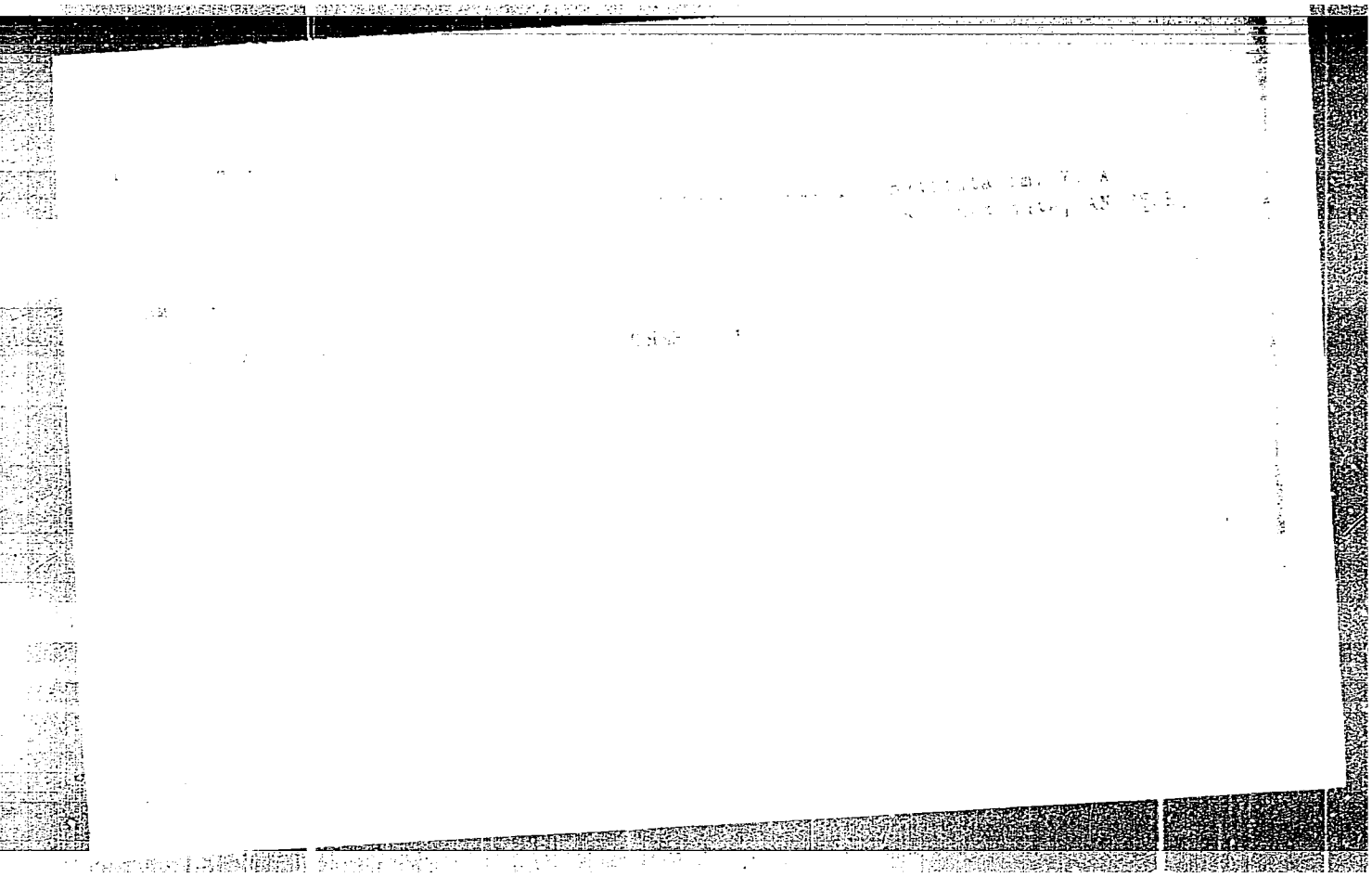

KAGAN, A.M.; SUDAKOV, V.N.

Breaking up of certain families of measures. Vest. LGU 19 no.13:147-150. '64 (MIRA 17:8)

SUDAKOV, V.N.; KHALFIN, L.A.

Statistical approach to the correctness of problems in mathematical physics. Dokl. AN SSSR 157 no.5:1058-1060 Ag '64. (MIRA 17:9)

1. Leningradskoye otdeleniye Matematicheskogo instituta im. V.A. Steklova AN SSSR. Predstavleno akademikom V.I. Smirnovym.

KAGAN, A.M.; SUDAKOV, V.N.

Structure of a complete class of unbiased estimates for families of distributions of a special type. Dokl. AN SSSR 164 no.2: 267-269 S '65. (MIRA 18:9)

1. Leningradskoye otdeleniye Matematicheskogo instituta im. V.A. Steklova AN SSSR. Submitted February 17, 1965.

KOLPAKOVA, T.A.; SUDAKOV, V.P.

Hydraulic turbopump units for machine irrigation.
Trudy TIIIMSKH no.8:3-15 '57. (MIRA 15:5)
(Soviet Central Asia--Irrigation)
(Pumping machinery)

ACC NR: AP7005753 (A) SOURCE CODE: UR/0126/67/023/001/0073/0077

AUTHOR: Burkin, V. S.; Sudakov, V. S.; Prokhodtsev, M. M.; Sinitsyn, N. A.

ORG: VNII of the Bearing Industry (VNII podshipnikovoy promyshlennosti)

TITLE: Radiometallographic analysis of the process of phase hardening and aging of the alloy N27T2

SOURCE: Fizika metallov i metallovedeniye, v. 23, no. 1, 1967, 73-77

TOPIC TAGS: iron nickel alloy, titanium, x ray diffraction analysis, metal hardening, metal aging, phase composition / N27T2 Fe-Ni-Ti alloy

ABSTRACT: Considering that aging processes occur more effectively in Ti-containing Fe-Ni alloys compared with Ti-free Ni-Fe alloys it was of interest to analyze structural changes in an alloy of this kind during every stage of its heat treatment: quenching, phase hardening, phase hardening and aging. Accordingly, specimens of the alloy N27T2 (0.06% C, 0.48% Si, 0.40% Mn, 27.5% Ni, 2.68% Ti, 0.003% P, 0.011% S, with Fe as the remainder)(martensitic point -64°C; end of reverse martensitic transformation 730°C) were subjected to radiometallographic analysis (γ-Fe interference lines of debyegrams). The structural changes in austenite

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ACC NR: AP7005753

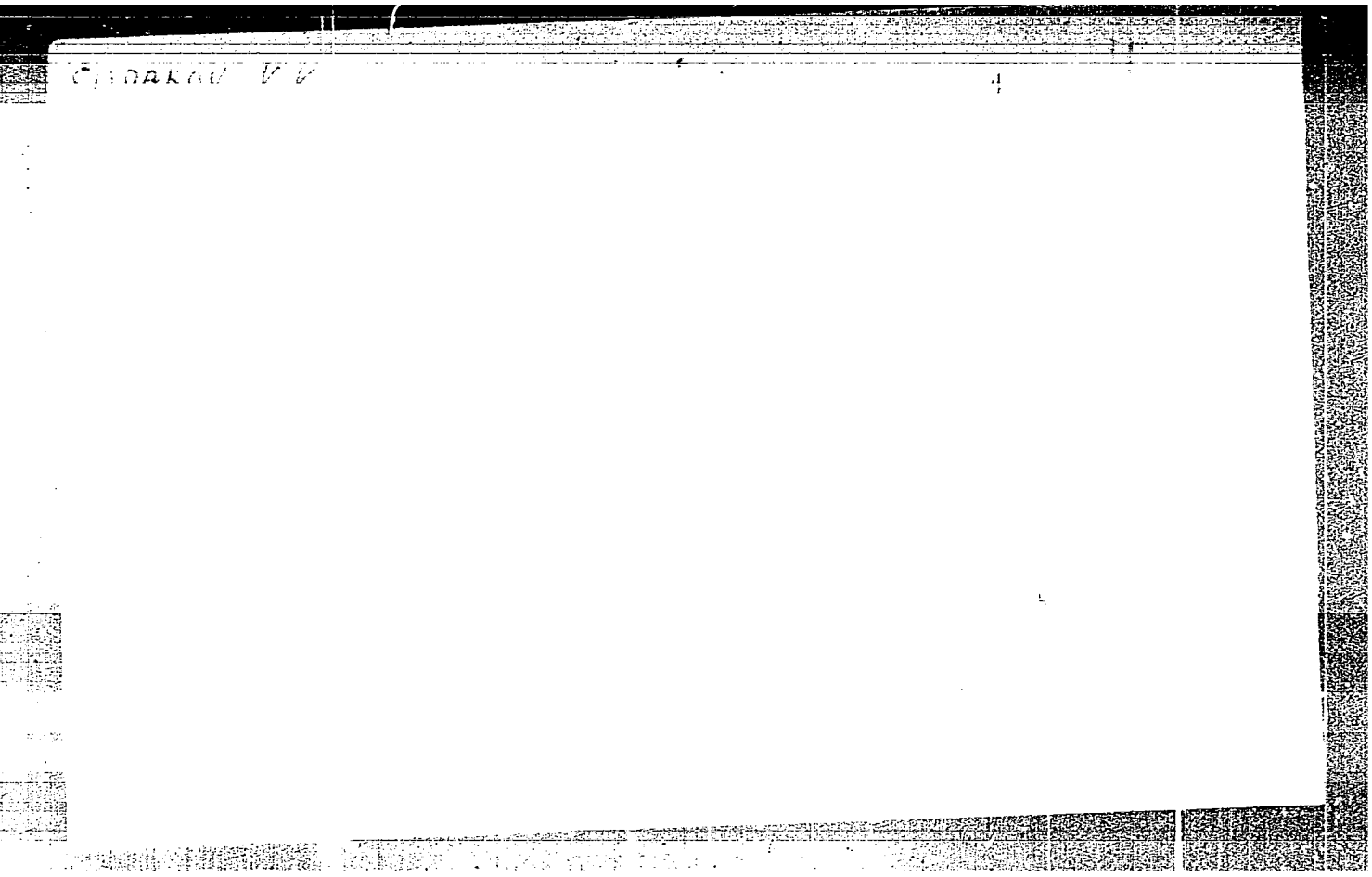
were determined on the basis of changes in the width of the diffraction lines of $(111)_{\gamma\text{-Fe}}$ and $(222)_{\gamma\text{-Fe}}$. The effect of aging was estimated according to changes in the lattice parameter a_γ of austenite. The various types of heat treatment employed were: quenching from 1050°C in water; phase hardening with cooling in liquid nitrogen (-196°C); phase hardening + aging at 450 and 650°C for 0.5, 3, 6 and 12 hr. Findings: the lattice parameter of phase-hardened austenite decreases compared with that of post-quenching austenite, which indicates that the temperature of limiting solubility of Ti for this alloy is somewhat above 800°C. As the aging process develops, the fine crystalline structure of the phase-hardened γ-solid solution becomes somewhat less "disperse" (isolated reflections can be perceived on the lines of the γ-phase) and the principal factor in the attainment of high hardness is the segregation of an excess phase (Ni_3Ti) and its rational distribution in the austenite matrix. The pattern of interference lines of the α-phase (martensite) obtained from austenite by means of subzero treatment and preliminary aging points to a higher "dispersity" of the fine crystalline structure of the martensite forming as a result of the aging. The high "dispersity" of the fine structure of the martensite arising on aging is due to the martensitic transformation in the phase-hardened austenitic matrix with fine-disperse particles of the excess phase. "The authors are profoundly grateful to K. A. Malyshev for his valuable assistance in the discussion of these findings." Orig. art. has: 3 figures, 1 table.

SUB CODE: 11, 20/ SUBM DATE: 04May66/ ORIG REF: 005

Card 2/2

MORSHCHIKHIN, Vasiliy Nikolayevich; SUDAKOV, V.V., red.; FREGER, D.P., red.izd-va; BELOGUROVA, I.A., tekhn. red.

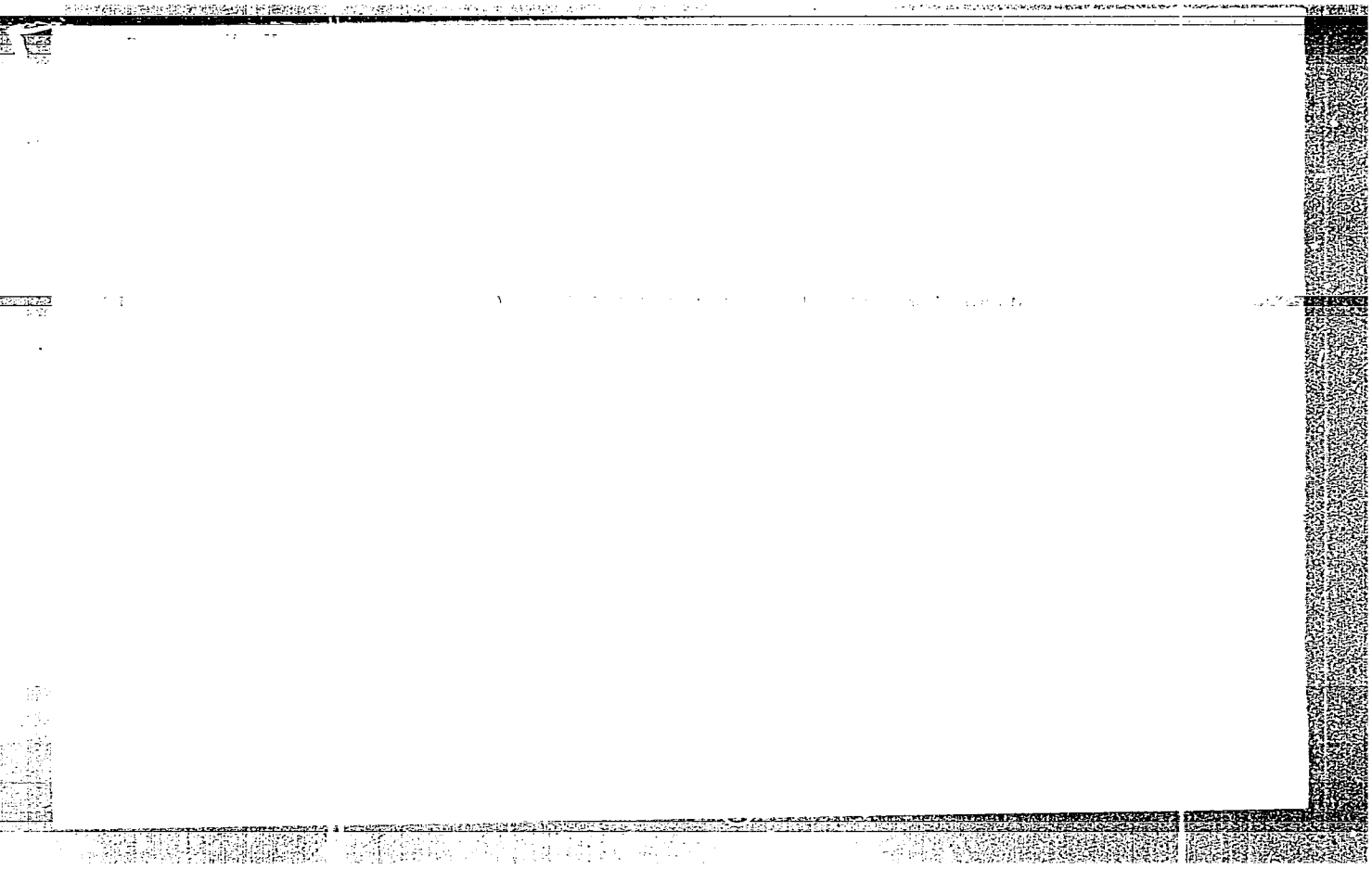
[Determining the elastic modulus for concrete by nondestructive testing methods of materials and structures] Opredelenie modulia uprugosti betona nerazrushaiushchimi metodami ispytanii materialov i konstruktsii. Leningrad, 1963. 25 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Stroitel'nye materialy i konstruktsii, no.6) (MIRA 17:1)



[illegible], V. P.

"[illegible] Properties in Quantum Electrodynamics." Cand Phys-Ma [illegible] Sci, Inst of Physical Problems im S.I. Vavilov, Acad Sci USSR, Moscow, 1954. (KZhFiz, Apr 55)

SO: Sum. No. 710, 7 Dec 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).



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530.145

4809. VERTEX PARTS FOR VERY HIGH ENERGIES IN QUANTUM ELECTRODYNAMICS. V.V.Sudakov. Zh. éksper. teor. Fiz., Vol. 30, No. 1, 87-95 (1956). In Russian.

A method of calculation of Feynman integrals with logarithmic accuracy to an arbitrarily high order of perturbation theory has been developed. The method is applied to compute the vertex part in quantum electrodynamics for a certain range of values of the variables, the result being expressed as the sum of the perturbation theory expansion. A.